Advanced Powertrain Research Facility

Downloadable Dynamometer Database (D[3])- Test Summary Sheet

2011 Hyundai Sonata Hybrid

Vehicle architecture	P2 HEV
Document date	9/28/2012
Revision number	1
Notes:	

Vehicle Setup Information

Test cell location	2WD
Vehicle Dynamometer Input	
Test weight [lb]	3750
Target A [lb]	26.8
Target B [lb/mph]	0.15
Target C [lb/mph^2]	0.0145
Test Fuel Information	
Fuel type	EPA Tier II EEE Gasoline
Fuel density [g/ml]	0.742
Fuel Net HV [BTU/lbm]	18202

Test ID [#]	Cycle	Cold start (CSt) Hot start [HSt]	Date	Test Cell Temp [C]	Test Cell RH [%]	Test Cell Baro [in/Hg]	Vehicle cooling fan speed: Speed Match [SM] or constant speed [CS]	Solar Lamps [W/m2]	Vecle Climate Control settings	Hood Position [Up] or [Closed]	Window Position [Closed] or [Down]	Cycle Distance [mi]	Cycle Fuel economy [mpg] (Fuel scale)	Cycle HV battery Integrated net current [DC Ah]	Cycle HV battery Average Zero crossing Voltage [V]	Cycle HV battery Net Energy [DC Wh]	Cycle HV battery Net Energy Consumption [DC Wh/mi]
Test information				Test cell information			Test cell setup		Vehicle setup						Electric energy consumption		
Test sequence purpose: Standard testing																	
71110015	UDDS CS	CSt	10/14/11,	22.55	36.24	28.85	Cst spd	Off	Off	Up	Down	7.45	42.4	0.222	284.457	-5.078	-0.682
71110016	UDDS HS	HSt	10/14/11,	22.83	34.80	28.86	Cst spd	Off	Off	Up	Down	7.43	47.8	-0.016	284.199	-64.876	-8.729
71110019	Highway	HSt	10/14/11,	22.23	34.59	28.87	Cst spd	Off	Off	Up	Down	10.24	58.1	-0.020	284.908	-63.576	-6.209
71110020	US06	HSt	10/14/11,	22.24	34.08	28.86	Cst spd	Off	Off	Up	Down	8.01	33.2	-0.104	285.897	-104.100	-12.993
71110024	Steady State Speed	HSt	10/17/11,	21.87	22.26	29.09	Cst spd	Off	Off	Up	Down						
Full charge test summary											**Totals**						

Re-charging information	N/A	Ambient temperature during charge	HV battery integrated current [DC Ah] **N/A**
Level:			Charger integrated current [AC Ah] **N/A**
			HV battery integrated power [DC Wh] **N/A**
			Charger integrated power [AC Wh] **N/A**

Summary notes

For the highway and US06 cycles only the second (hot) test results are presented in this summary.
Electric energy consumption:
- HV battery Integrated net current --> Integrated current as reported by power analyzer
- HV battery Average Zero crossing Voltage --> Calculated average zero crossing voltage over the phase or cycle
- HV Net Energy --> Integrated power as reported by power analyzer
- Note that HV Net Energy is not equal to the product of HV battery Integrated net current times Average Zero crossing Voltage.

* The vehicle coast down information for EPA

Advanced Powertrain Research Facility Data referencing:

- This data has originated from the Argonne National Laboratory D[3] website. http://webapps.anl.gov/vehicle_data/
- The purpose of this information is to provide advanced technology vehicle chassis dynamometer test data for the engineering community. Mostly comprised of vehicle benchmarking test results, it is intended for the better understanding of the technology and for education. Data from this website may not used as a source for publication or profit without consent of Argonne National Laboratory.
- Please contact d3info@anl.gov for questions, comments or inquiries.